GO-PAK

12V and 24V Models
Extra Heavy Duty Booster Pack
For Professional Operators

USER MANUAL

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1. SAFETY INSTRUCTIONS

This portable high energy power source uses ultra high discharge sealed lead acid batteries with characteristics designed to deliver the very high cranking currents required to start the wide variety of gasoline and diesel engines used in automobiles, buses, trucks, agricultural vehicles and heavy plant. The sealed batteries contain no free liquid and require no maintenance. The pack can be operated in any position

Always observe the following

- Do not short circuit this equipment – Never attempt to check power by striking alligator clips together.
- Always check polarity when connecting the pack to any battery or vehicle.
- Operators must remove the red isolator key from the key switch when the unit is not in use.
- To maximize performance, ensure all vehicle accessories are switched off before turning on the red isolator switch.
- With diesel engines, wait for pre-heat light on the vehicle to extinguish before cranking.
- Only use battery charger provided with the pack.
- NEVER allow the power pack to become fully discharged (battery “deep discharge” failure can occur) – Not covered by warranty.
- ALWAYS secure alligator clips to the vehicle battery BEFORE turning on the red isolate switch.
- NEVER connect or disconnect live alligator clips to any vehicle or battery. Explosion or engine control unit damage can occur.
- This pack is heavy (60lbs), it is recommended to use the side carry handles provided for two person lifting.

2. PRODUCT OVERVIEW

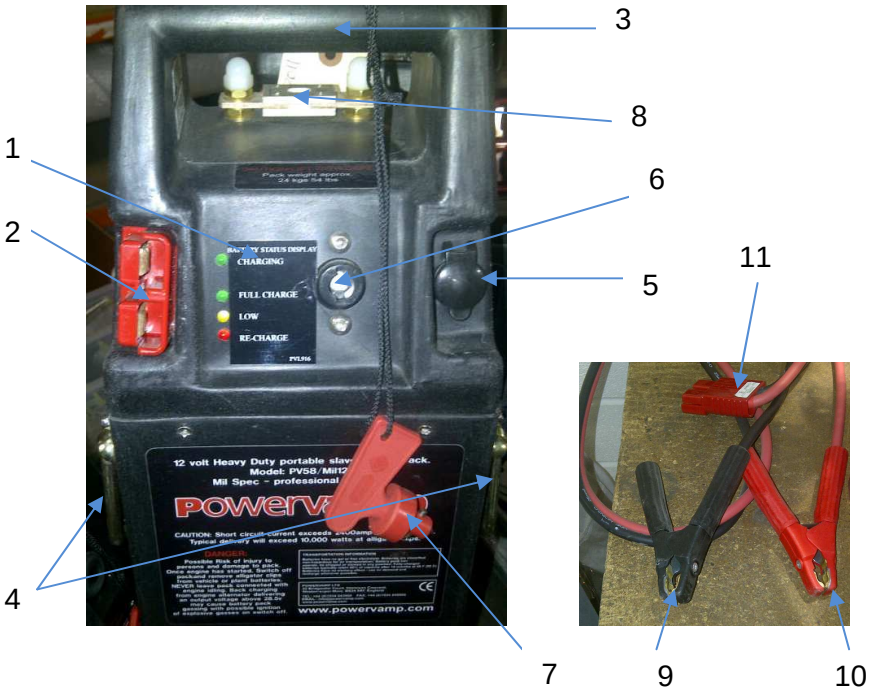

Fig1. 12V Go-Pak and 2m alligator lead set

1	Battery LED status display	**7**	Red isolator key
2	12V/24V connector	**8**	750A Protection fuse
3	Main handle	**9**	Alligator red clip (+)
4	Side-handles	**10**	Alligator black clip (-)
5	AC Input charger socket	**11**	Output lead connector
6	Isolator switch		

3. OPERATING INSTRUCTIONS

Note: This product is extremely powerful. DO NOT use without reading and understanding these instructions

1. Ensure that red isolator key is removed from isolator switch.
2. Insert the alligator lead set to the 12V or 24V connector on the front of the pack (depending upon vehicle voltage and unit model).
3. Connect both the alligator clips to the battery as follows:
   Red clip = positive (+) battery terminal
   Black clip = negative (-) battery terminal
   CAUTION: On 24V vehicles, make sure the alligator clips are connected to the final output + - battery terminals and NOT across the + - series link. Incorrect connection in this instance will result in a dead short and severe damage to the pack.
   If the leads are connected incorrectly, the battery status indicators will not illuminate and the reverse polarity warning buzzer will sound. Note: indicators and buzzer will not operate if the vehicle battery is totally flat or no battery is fitted. In this situation, check carefully that the leads are connected correctly before turning on the power.
4. Insert red isolator key and turn clockwise to activate pack and establish power to vehicle. On diesel engines wait for the pre-heaters on the vehicle to operate.
5. Engage vehicle starter and allow starter to crank engine as normal.
6. Do not crank engine for longer than 10 seconds unless engine is firing. If engine is not firing or has not started, turn off pack, wait two minutes for pack to recover then repeat sequence again.

WARNING

Once the vehicle has started, allow engine to stabilize and then switch off pack. DO NOT leave pack connected to vehicle. Overcharging from the engine alternator and release of hydrogen gas and possible explosion can occur.

7. Switch off key switch and remove red isolator key.
8. Disconnect power pack from vehicle battery by removing the negative clip, followed by the positive clip.

NOTE: Although this unit is fitted with an anti-surge suppressor, it will not protect the alternator if the vehicle battery is open circuit or no battery is fitted. Switching off the power pack with the engine still running may cause damage. If in any doubt, switch off the engine before switching off the power pack.

Protection Fuse

The power pack is fitted with a protective output fuse which may blow under the following circumstances:

- Reverse polarity – if the pack is turned on with the battery clips reversed.
- Short circuit – if the battery clips are touched together with the pack turned on or a direct connecting across the series or parallel link is made in error.
- **CAUTION:** Over cranking – if the vehicle is continuously cranked for more than 15 seconds, the high discharge amps can cause excessive heating of batteries and isolator switch leading to pack failure. In this event, the safety fuse may not fail since a direct short circuit has not occurred.

If the fuse should blow, loosen the two bolts and remove the fuse, then replace with the same value (Part:F750) and re-tighten bolts.

4. BATTERY RECHARGING

The power pack is supplied with a special Powervamp two-stage external charger that is designed to allow the power pack to remain on permanent charge where the pack is in regular daily use. The unit can also be recharged using a suitable in-vehicle charging lead. Vehicle voltage must be the same as the pack.

4.1 Mains charging

1. Ensure isolator switch is turned off and red key removed.
2. Ensure mains supply is switched off then connect charger lead to power pack.
3. Switch on mains supply to charger and place charger switch to the ON position.
    - Charge status indicator on charger should illuminate red (see charger label)
    - Charge status indicator on the pack should illuminate green (see section 5.2)
4. When charging is complete, indicator on charger will change from red to green. Approximate time from discharge to full battery recovery can be up to 12 hours.

4.2 In-vehicle charging

1. Ensure isolator is turned off and red key removed.
2. With the vehicle engine switched off, connect in-vehicle charged lead to power pack and connect other end to vehicle 12V or 24V DC accessory socket – depending upon pack type and vehicle voltage.
3. Start engine and pack will begin charging from the vehicle alternator.
    - Charge status indicator on pack should illuminate green (see section 5.2)

Pack recovery from heavy use is dependent upon the engine running time and alternator output voltage.

CAUTION:
If the vehicle DC socket is not ignition controlled, it is essential that the charge lead is removed from the socket whenever the vehicle is left unattended, to avoid possible battery pack discharge.

5. LED DISPLAY

The LED indicator lights on the front of the power pack are designed to provide the operator with an approximate indication of pack capacity and charging status.

Fig2. Battery LED Display

5.1 Reverse polarity

If the battery clips are connected incorrectly (reverse polarity), then the indicator will illuminate on the pack and a warning buzzer will sound. If this happens, reverse the battery clips before proceeding. If in doubt, seek professional help before switching on pack.

5.2 Charge status

Go-Pak charging
When the pack is connected to the mains charger or in-vehicle charging lead, this indicator will illuminate to show the internal battery is being charged correctly.
Note: the LED will only illuminate if the charging voltage is at a high enough voltage to re-charge the Go-Pak.

Alternator check
This indicator can also be used to check if a vehicle alternator is charging correctly.

1. Ensure isolator switch is turned off then connect battery clips to vehicle battery.
2. Start the vehicle and gently increase the engine revs.

3. The charge status LED will illuminate when the alternator output voltage is sufficient to recharge the battery.

5.3 Battery status

LED display
With the isolator switch turned on, these indicators show the charge condition of the power pack battery. When only the ‘low’ indicator is illuminated, the pack must be recharged.

Vehicle battery
With the isolator switch turned off and the leads connected to the vehicle battery, the battery status indicators will show the approximate charge condition of the vehicle battery.

6. SPECIFICATIONS

	12V Go-Pak	24V Go-Pak
Volts (nominal)	12VDC	24VDC
Amp/hour capacity	52	26
Battery type	2 x 26Ah in parallel	2 x 26Ah in series
Rated input voltage	230V/50Hz AC	
Safety fuse (amps)	500	750
Peak amps	4800	2400
Cranking amps	2220	1110
Cold cranking amps	912	456
Battery shelf life	24 months (from fully charged)	
Output cables (length)	6ft (2m)	
Output cables (core dia)	0 gauge (50mm sq)	
Parallel and series yokes	No	
Alligator clips, cast brass, braided	1000 amps	
Reverse polarity warning	Fitted	
Capacity status LEDs	Fitted	
Safety isolator (key switch)	1000amps	
12V Gasoline engines	Up to 7 litres	
12V Diesel engines	Up to 3.5 litres	
24V Diesel engines	Up to 14 litres	
Charge time from flat	5.5 hours to 95%	
Charger specification	10 amp, 12v, 2-stage	6 amp, 24V, 2-stage
Weight	59lbs (27kgs)	

Dual outputs Go-Pak (12V and 24V) are also available.

7. SPARE PARTS

Part No	Description
	2V – 10 amp battery charger
	24V – 6 amp battery charger
	2m lead set with battery clamps
	2m lead set with cowbell connector
	750 amp fuse
	1000 amp isolator switch
	Red isolator key

8. METAL TROLLEY

To aid manoeuvring of the pack, a heavy duty narrow track trolley is available

Part No	Description
	Heavy duty power pack trolley

Fig3. Go-Pak fitted on metal trolley

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